



## **Effectiveness Educational Media with Video Media on The Compliance Female Adolescents Consuming Blood Enhancement Tablets**

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### **ABSTRACT**

*According to the World Health Organization, adolescents are residents aged 10-19 years. Data from the Samarinda City Health Office in 2021 in the health screening of junior high school children in 18 health centers in Samarinda, from a total of 3,072 female adolescents with a risk of anemia of 3.48%. Adolescent girls' awareness of the importance of consuming TTD as an effort to prevent anemia is still low. The Strategic Plan of the Indonesian Ministry of Health for 2015-2019 targets the coverage of TTD provision for female adolescents in stages from 10% (2015) to 30% (2019). The advantages of video media include being more interesting, easier to understand, can also be self-study, directly achieve goals and display content details, and can compare two different scenes at once. The purpose of this study is how effective video education media is on the compliance of adolescent girls in consuming iron tablets. Experimental research type. This research design uses a pre-experimental study method with one group pretest-posttest design. The results of the significance p-value of 0.000 < 0.05. So it can be concluded that video education media is effective in increasing knowledge of adolescent girls' compliance in consuming iron tablets.*

**Keywords: Education, Teenage Girls, Iron Supplements, Video**

## INTRODUCTION

According to the World Health Organization, adolescence is a phase of development from childhood to adulthood with significant changes ranging from physical to psychological that occur between the ages of 10 to 24 years where there is an identity crisis or search for self-identity (WHO, 2022). Adolescent girls aged 12 to 16 years are a vulnerable group to anemia. Adolescent girls are at risk of experiencing iron deficiency anemia due to the large amount of iron lost during menstruation. In addition, lack of iron intake also has an impact on the incidence of anemia which further causes decreased performance at school (Angraeni, 2022).

Anemia has an impact on various other serious problems in adolescents. Adolescents who suffer from anemia will experience weakness, fatigue, lethargy, pale face, dizziness, to decreased concentration, inhibited physical growth and brain intelligence, decreased work productivity (Budiarti A, 2021). Efforts to treat anemia in adolescent girls are to fulfill the intake of iron nutrients, namely by providing iron tablets or iron supplements (WHO, 2022). Anemia is a public health problem in Indonesia that is suffered by all ages. The problem is caused by a deficiency of iron and other nutrients, which can be caused by things like low iron intake, incorrect iron

consumption, and problems getting these nutrients from food. Iron intake can be obtained through iron supplementation or Iron Supplement Tablets (TTD). The normal Hb level in adolescent girls aged 12-15 years is 12 g/dl (Taufiq Z, 2020). Lack of consumption of iron supplements has a negative impact on health such as weakness and lethargy, thus reducing productivity.

The long-term impacts are disrupting pregnancy, increasing the risk of maternal mortality, and the risk of giving birth to premature babies and low birth weight (LBW) (Lestari D, 2021). The incidence of anemia is often found in adolescents, because adolescence is a critical stage that is categorized as a vulnerable group and has a high health risk (Suryani. I.S, 2021). According to the Ministry of Health in 2022, the number of adolescents aged 10-19 years was 21,830,468 people, anemia sufferers in adolescent girls were 46.6%, this figure increased when compared to 2021 which was 36.3%.

The coverage of Fe tablet consumption was 22.9%, the low coverage of Fe tablet consumption was caused by various reasons, namely being taken only during menstruation by 6.6%, forgetting by 20%, unpleasant taste and smell by 22.9%, there were side effects by 8.9%, not yet due by 3.8%, feeling unnecessary by 26.1% and

other reasons by 11.7% (Kemenkes RI, 2022).

Compliance is a change in a person's behavior from disobedient to obedient to the rules. Adolescent girls are said to be compliant in consuming Fe tablets if they consume 1 tablet every week. Non-compliance with Fe consumption can be caused by a lack of adolescent knowledge about the benefits of Fe consumption. In addition to lack of knowledge, obstacles experienced by adolescent girls in consuming Fe tablets are often feeling nauseous after taking Fe tablets and not liking the taste and aroma of the Fe tablets. Another high reason is non-compliance with Fe tablet consumption due to laziness and boredom (Mardiah R, 2021).

Data from the Samarinda City Health Office in 2021 in the health screening of junior high school children at 18 Health Centers in Samarinda, from a total of 3,072 adolescent girls with a risk of anemia of 3.48%. Based on the management of the Sungai Kapih Health Center work area of Samarinda City, the highest prevalence results occurred in SMPN 17, namely 46.15% of adolescent girls at risk of anemia. Awareness of adolescent girls about the importance of consuming TTD as an effort to prevent anemia is still low. The Strategic Plan of the Indonesian Ministry of Health for 2015-2019 targets the coverage of TTD

provision for adolescent girls in stages from 10% (2015) to 30% (2019). The need for iron in adolescents increases due to rapid growth during puberty. Health education is an activity or effort to convey health messages to the community, groups or individuals, who are expected to gain better knowledge about health (Salsabila. M. J, 2023).

The health education process requires an effective information delivery media to attract the public such as animated video media, so that the information conveyed is more attractive to young women (Eka & Navelia, 2024). Video is a type of audio-visual media that can depict an object moving together with natural sounds or appropriate sounds.

## **METHOD**

Experimental research is a systematic and logical method for observing carefully controlled conditions, by manipulating a treatment, stimulus, or certain conditions, then observing the effects or changes caused by the manipulation. This research design uses a pre-experimental study method with a one group pretest-posttest design. This research will be conducted in June 2024 at SMAN 6 Palaran. The population in this study were all female adolescents in class X, the sample was obtained using the purposive sampling method with a total of 30 people. Inclusion

criteria are criteria where the research subjects can represent the population and meet the requirements as a sample. The inclusion criteria in this study were female adolescents and were willing to be respondents. The tool used to measure changes in female adolescent knowledge was a questionnaire and Validity and Reliability Tests would be carried out on the questionnaire. A valid instrument means that the instrument can be used to measure what is to be measured. A reliable instrument means that an instrument that, when used several times to measure the

same object, will produce the same data. Primary data processing includes data input, data processing and statistical data analysis carried out computerized, namely with a computer system, to conduct data analysis with descriptive analysis and inferential analysis, namely the Normality Test, Wilcoxon Test.

## RESULTS AND DISCUSSIONS

### Result

#### 1. Univariate Analysis

##### a. Respondent Characteristics

**Table 1. Table Respondent Characteristics**

Variables	(n=30)	
	n	%
Age		
15 years	25	83.3%
16 years	5	16.7%
Amount	30	100%

Source: Primary Data 2024

Based on the table above, it can be concluded that of the 30 respondents, the

majority, 83.3%, were 15 years old, and 16.7% were 16 years old.

#### 2. Bivariate Analysis

##### a. Data Normality Test

The data normality test in this study was calculated using Shapiro-Wilk because the number of samples was <50. The data is said to be normally

distributed if the significance value (Pvalue) > 0.05. The results of the normality test can be seen in the following table:

**Table 2. Shapiro-Wilk Data Normality Test**

Group	P Value	Conclusion
Intervention <i>Pre-test</i>	0.239	Normally Distributed
<i>Post test</i>	0.000	Not Normally Distributed

Source: Primary Data 2024

Based on the data normality test using Shapiro-Wilk, it was found that the intervention group had pre-test and post-test results that were smaller than  $\alpha$

(0.05) so that it was stated that the data was not normally distributed. Therefore, the Wilcoxon alternative test was used.

*b.* Wilcoxon Sign Rank Test

**Table 3. Table Knowledge Value Analysis Results**

Treatment	Average	Std.Deviation	p-value
Pre-test	10.43	1,633	0,000
Post-test	13.80	0.805	

Source: Primary Data 2024

Based on the table above, it shows that the average pre-test value is 10.43% with a standard deviation of 1.633, after being given a video-based educational media intervention, the level of respondent knowledge increased to 13.80% with a

standard deviation of 0.805. While the significance result of the p-value is 0.000 <0.05, indicating that there is an increase in knowledge after being given a video educational media on compliance with consuming iron tablets in adolescent girls.

**Discussion**

1. Respondent Characteristics

According to research conducted by (Adnyana, 2021), it states that the younger the age of the teenager, the less compliance in consuming iron tablets. The age of teenage girls is currently still entering the early stages of adolescence, namely at the age of 13-15 years, characterized by erratic behavior, tends to be emotional, unstable, has many problems, and of course is a critical period in adolescence. Seeing this, the non-compliance of teenage girls in participating in this program is likely caused by the emotional tendencies of teenagers with many unwanted regulations, one of which is consuming

iron tablets will cause erratic behavior such as non-compliance (Adnyana, 2021). During this period, there is a growth spurt, the emergence of secondary sexual growth characteristics, and psychological changes occur (Agustina et al., 2024). The same thing was expressed by (Mastuti et al., 2024) that during this period teenage girls begin to enter puberty (development of reproductive organs) which is marked by the onset of menstruation. In addition, during this period, conflicts related to freedom and control over greater autonomy began to occur (Fitriyah et al., 2024). The above shows that adolescence is in a critical period of development, where they experience many changes both

physically and psychologically. The same thing was expressed by Waluyani *et al.* (2022), that during this period, adolescents experience physiological and mental transitions so that adolescents are susceptible to many problems, including in nutritional needs, one of which is anemia.

## 2. Knowledge

Knowledge and learning processes can affect a person's level of knowledge, which can then form an action, one of the learning processes to obtain information about health is through health education where this will give rise to an understanding of health which, if conveyed clearly, will get optimal learning results (Arniti *et al.*, 2021). Research conducted by (Runiari & Hartati, 2020) showed that the level of knowledge of the respondents was mostly in the fairly good category at 44.3%. It was found that there were still 21.5% of respondents with poor knowledge. The results of the analysis with Kendall Tau found a p value of 0.03, meaning that there was a relationship between knowledge and compliance with taking iron tablets.

Adolescent girls are the group most susceptible to iron deficiency anemia, because adolescent girls menstruate every month and the need for iron increases to

replace iron lost during menstruation. Lack of knowledge also contributes to the problem of anemia (Larasati *et al.*, 2021). Adolescents with low knowledge about anemia tend not to know the causes, dangers, and prevention of anemia during menstruation. Low knowledge about anemia and nutrition in adolescents will cause adolescents to choose deviant consumption. So that the intake of nutrients will not meet the needs, especially the need for iron (Samputri & Herdiani, 2022).

A study conducted on adolescents by (Dwistika *et al.*, 2023) showed a significant difference in compliance with the consumption of Iron Supplement Tablets (TTD) in female adolescents between the group that received animated video intervention and the group that only received leaflets. Animated videos were more effective in increasing compliance with TTD consumption after intervention than leaflets, statistical results showed a greater impact in efforts to prevent anemia. Manyullei *et al.*, 2022) stated that health education in the health sector is generally carried out through health promotion or education. The purpose of health education activities is to achieve a healthy lifestyle by influencing community behavior, both individually

and in groups, through the delivery of messages.

They also like audio visuals that involve one sense of hearing and sight which can help adolescents understand and remember information more easily. Learning through media that involves several senses tends to be more effective and enjoyable (Kusumahwardani et al., 2022). Nutrition education plays an important role in improving public health, especially in improving nutritional status through increasing knowledge and changing nutritional behavior. This behavioral change is influenced not only by education, but also by environmental factors and the role of parents (Zogara, 2021). Other factors that influence compliance with iron supplement consumption include breakfast habits, vitamin C consumption, nutritional intake, and activity patterns (Saleh et al, 2021).

Effective counseling plays an important role in shaping positive attitudes of adolescents towards consuming Iron Supplement Tablets (TTD), with the hope that this positive attitude can increase their compliance in preventing and overcoming iron deficiency anemia. A good adolescent attitude is closely related to a good understanding of the prevention and control of anemia through the use of TTD (Setiawan et al., 2023). Prevention of an

increase in anemia cases can be done through education for adolescents. Education must be interesting, and the use of appropriate learning media can facilitate the delivery of information. Learning media acts as a tool to explain concepts, ideas, and learning materials effectively (S. , M. D. N. , Manyullei et al., 2023)

The importance of understanding anemia in adolescent girls can be considered a strategic effort in preventing this global health problem. As a follow-up to this campaign, it is expected that young women can identify anemia and take preventive measures, including taking iron tablets. It is hoped that this knowledge can be disseminated by young women to their peers, so that they can jointly support government efforts in preventing and overcoming anemia among young women (Amraeni et al., 2023).

## CONCLUSION

1. Characteristic data can be concluded that of the 30 respondents, the majority, 83.3%, were 15 years old, and 16.7% were 16 years old.
2. The data normality test found that the intervention group had pre-test and post-test results that the data was not normally distributed. Therefore,

the Wilcoxon alternative test was used.

3. The results of the significance p-value of  $0.000 < 0.05$ , indicate that there is an increase in knowledge after being given educational media videos on compliance with consuming iron tablets in adolescent girls.

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